PRESSURE LOSS CALCULATIONS
Maple Woods Estates
5/13/2022

TEST INFORMATION FROM HYDRANT H154012
ON THE SOUTH WEST CORNER OF STH 83 AND NAGAWICKA RD.

STATIC PRESSURE =	66 PSI	C VALLUE
RESIUAL PRESSURE =	20 PSI	PVC = 150
FLOW RATE =	3595 GPM	DI = 130
HYD. NOZZLE ELEV. =	985.31	

CRITICAL HYDRANT #1

HYD. NOZZLE ELEV. =	987.25			
EXISTING WATER MAIN =	227 LF	C =	150 SIZE	12
PROPOSED WATER MAIN =	242.2 LF	C =	150 SIZE	8

CONVERT PRESSURE DROP TO REQUIRED FIRE FLOW OF 500 GPM

$\frac{H2}{H1} = \frac{(Q2)^{1.85}}{(Q1)}$ $H2 = 8 * (500/820)^{1.85}$ 1.20 PSI

CONVERT FRICTION LOSS BETWEEN TEST HYDRANT AND DESIGN HYDRANT A FLOW RATE OF 500 GPM

$F.L. = (L/100) \times 0.2083 \times (100^{1.85}) \times (Q^{1.85})/((C^{1.85}) \times (D^{4.86555})$

F.L = 0.26 /2.31
F.L = 0.11 PSI

STATIC PRESSURE CHANGE FROM THE TESTED HYDRANT TO THE DESIGN HYDRANT

DESIGN HYDRANT NOZZEL ELEV. =	987.25
TEST HYDRANT NOZZEL ELEV. =	985.31
	1.94 / 2.31 = 0.84 PSI

RESIDUAL PRESSURE AT THE DESIGN HYDRANT

STATIC PRESSURE =	66 PSI
RESIDUAL PRESSURE CONVERSION =	1.20 PSI
8" TEANSMISSION LOSS =	0.11 PSI
STATIC PRESSURE CHANGE =	0.84 PSI
	63.85 PSI @500 GPM

STATIC PRESSURE AT THE DESIGN HYDRANT

STATIC PRESSURE =	66 PSI
STATIC PRESSURE CHANGE =	0.84 PSI
	65.16 PSI

Rob Davy

From: Secret Strobl <sstrobl@sussexwi.gov>
Sent: Thursday, April 16, 2026 12:41 PM
To: Rob Davy
Cc: Jeff Klamik; Jon Baumann
Subject: RE: Maple Woods fire flow.
Attachments: 3300-066.pdf

I'm not sure what you're seeing with the comments below, but the fire flow and static pressures are shown at residual pressure of 20 PSI.

H154013:
Fire Flow: 3665
Static Pressure = 69 PSI
Residual Pressure = 20 PSI

H154012:
Fire Flow: 3595
Static Pressure = 66 PSI
Residual Pressure = 20 PSI

Attached please find an example of DNR form 3300-066 Water Main Submittal Checklis from another project for your reference.

Thanks,
Secret Strobl, P.E.
Assistant Village Engineer

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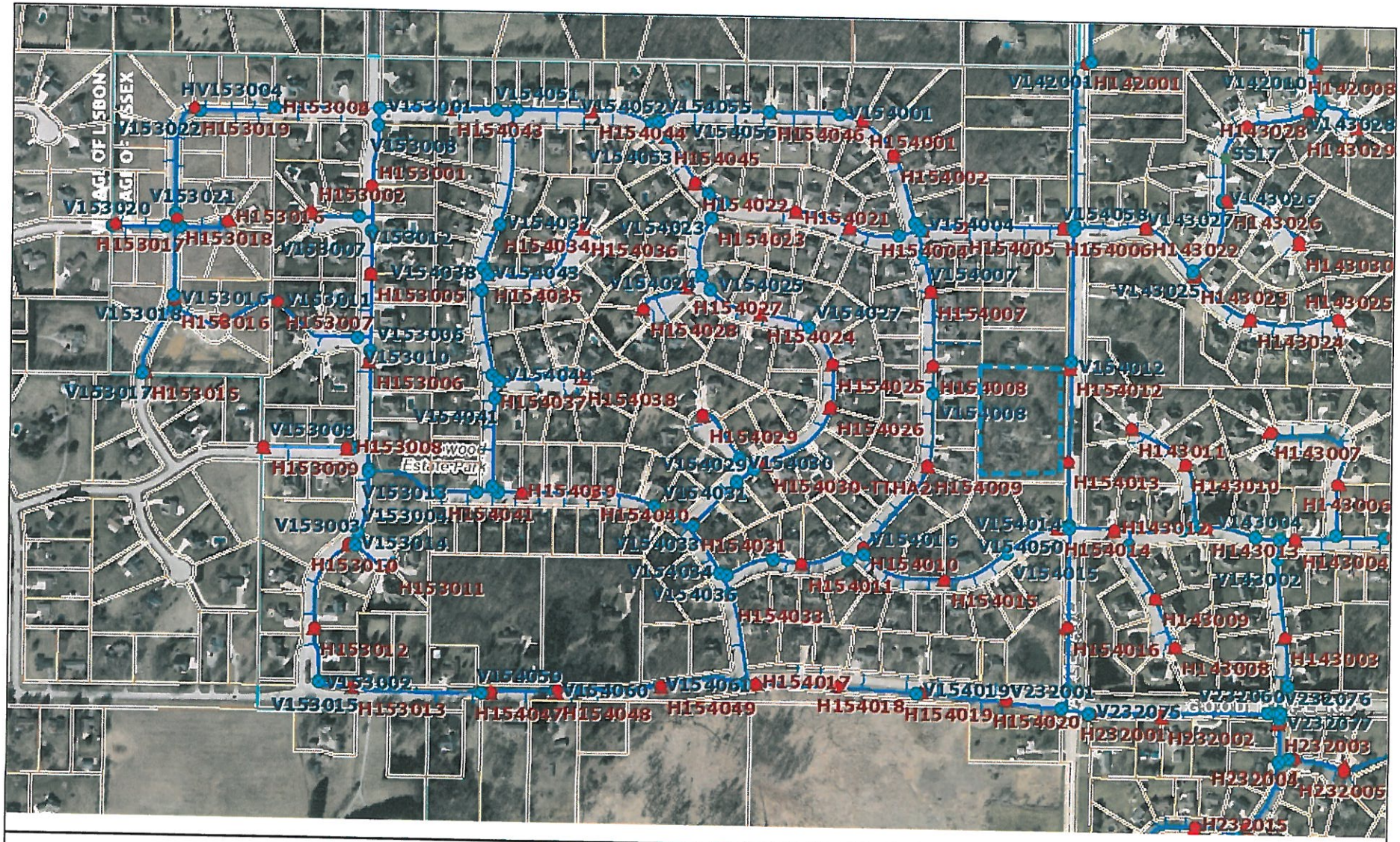
From: Rob Davy <RobD@lce.biz>
Sent: Thursday, April 16, 2026 11:42 AM
To: Secret Strobl <sstrobl@sussexwi.gov>
Subject: RE: Maple Woods fire flow.

So I got to this spot and it says the static pressure is 66 psi, then it says TOTNEEDFF 500 and TFNCLRESP 65 is that the flowing pressure at 500 gpm? And if so how do I print this information so I can submit it to the DNR?



Village of Sussex

DISCLAIMER:

This map is not a survey of the actual boundary of any property this map depicts.

The Village of Sussex does not guarantee the accuracy of the material contained here in and is not responsible for any misuse or misrepresentation of this information or its derivatives.

SCALE: 1 = 566'

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